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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,898	10/21/2005	Shusaku Takagi	05702/HG	9904
1933 7590 09/16/2011 HOLTZ, HOLTZ, GOODMAN & CHICK PC 220 Fifth Avenue 16TH Floor NEW YORK, NY 10001-7708				
EXAMINER KIECHLE, CAITLIN ANNE				
ART UNIT		PAPER NUMBER		
1733				
MAIL DATE		DELIVERY MODE		
09/16/2011		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/553,898

Applicant(s)

TAKAGI ET AL.

Examiner

CAITLIN KIECHLE

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-8 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-8 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF-133)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Status of Claims

1. Claims 1 – 8 are pending where no claims have been amended.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0047256 (hereinafter US '256).

US '256 is applied to claims 1 – 8 as set forth in the April 4, 2011 Office Action since no claims have been amended.

5. Claims 1 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,319,338 (hereinafter US '338).

US '338 is applied to claims 1 – 8 as set forth in the April 4, 2011 Office Action since no claims have been amended.

Response to Arguments

6. Applicant's arguments filed June 28, 2011 have been fully considered but they are not persuasive.

Arguments are summarized as follows:

a. US '256 does not teach the following important constituent feature of the presently claimed invention: "having a ratio of intervals of the martensite in the rolling direction to those in the sheet thickness direction of 0.85 to 1.5." This feature is depicted in applicants' Fig. 1 and applicants have prepared submitted Figures 2 and 3 to demonstrate the important constituent feature. As shown in Fig. 2, excellent values for high absorbed energy is achieved only when the ratio of intervals of the martensite in the rolling direction to those in the sheet thickness direction is 0.85 to 1.5. Also, Fig. 3 shows that excellent high values for TSxEl are achieved only when the ratio of intervals of the martensite in the rolling direction to those in the sheet direction is 0.85 to 1.5. To attain the claimed ratio of intervals it is indispensable to employ a very severe control of annealing temperature as shown in Fig. 4 which demonstrates the relationship of the annealing temperature and the cooling temperature in the presently claimed invention. Paragraphs [0147]-[0149] of US '256 teach that the annealing temperature is between 700 to 900°C which is far higher than the range shown in Fig. 4.

b. US '338 teaches a microstructure of a mixture of ferrite and/or bainite, either of which is the dominant phase, and a third phase including retained austenite at a volume fraction between 3% and 50%. US '338 teaches a "TRIP" steel which does not contain martensite. The steel of the presently claimed invention is a "Dual Phase" steel consisting essentially of mainly a ferrite phase

and a martensite phase. Therefore, "TRIP" steel and "Dual Phase" steel are substantially different types of steel.

Examiner's responses are as follows:

a. Applicants' newly submitted Figs. 2-4 are considered the arguments of counsel and cannot take the place of evidence in the record. See MPEP 2145 I. Therefore, it is recommended Applicant submit Figs. 2-4 in declaration form. However, in consideration of Figs. 2-4, they do not demonstrate either unexpected results or the criticality of the ratio of intervals of the martensite in the rolling direction to those in the sheet thickness direction of 0.85 to 1.5. For example, it is recommended that Applicant compare a steel sheet with a ratio of 0.84 to a steel sheet with a ratio of 0.85 and a steel sheet with a ratio of 1.5 to a steel sheet with a ratio of 1.51 to demonstrate the criticality of the ratio of intervals of the martensite in the rolling direction to those in the sheet thickness direction. Currently, the submitted figures are not commensurate in scope with the claimed ratio of intervals range because the closest minimum comparative example is a ratio of 0.71 and the closest maximum comparative example is a ratio of 1.57. Therefore, neither of the comparative examples demonstrate the criticality of the claimed minimum and maximum of the ratio of intervals range. In addition, instant claim 5 does not limit the annealing temperature to the range in Applicants' submitted Fig. 4 and therefore the prior art is not required to teach this range. Rather, instant claim 5 recites the broad limitation that the annealing temperature is in a range of [the coiling temperature + the cold-rolling reduction

percentage x 4.5] to [the coiling temperature + the cold-rolling reduction percentage x 5.5]. Therefore, the Examiner maintains the position that the annealing temperature range of 700-900°C disclosed by US '256 overlaps with the specific examples of annealing temperature ranges recited in Table 2-2 of the instant application as set forth in the previous Office action.

b. The instant claims do not limit the steel sheet to *only* contain ferrite and martensite and therefore the prior art of US '338 is not required to teach this limitation. Rather, instant claim 1 for example recites "a microstructure *containing* 50% or larger area percentage of ferrite and 10% or larger area percentage of martensite" which is open-ended language and does not exclude additional, unrecited elements. See MPEP 2111.03. Therefore, the steel of US '338 with a mixture of ferrite and/or bainite, either of which is the dominant phase, and a third phase including retained austenite at a volume fraction between 3% and 50% satisfies the instant claim limitations.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN KIECHLE whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Roy King/
Supervisory Patent Examiner, Art
Unit 1733

CK

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